

Abstract of the Disclosure

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**ELASTOMER COMPOSITION WHICH CONTAINS INTERCALATED
AND EXFOLIATED CLAY REINFORCEMENT FORMED IN SITU
WITHIN THE ELASTOMER HOST AND ARTICLE, SUCH AS A TIRE,
HAVING AT LEAST ONE COMPONENT THEREOF**

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This invention relates to a rubber composition which contains intercalated and at least partially exfoliated organophilic clay reinforcement formed in situ within the elastomer host from a hydrophilic clay. The invention particularly relates to an in situ modification of a hydrophilic clay to compatibilize the clay with a diene-based

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elastomer. The clay is converted from being hydrophilic in nature to being more hydrophobic in nature and therefore more compatible with the elastomer by bulk blending the elastomer host with a smectite clay, preferably a montmorillonite or hectorite clay, and a hydrocarbyl onium salt, such as for example a quaternary ammonium salt, and particularly in the absence of water addition to the elastomer host.

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Therefore, such in situ procedure of intercalation and at least partially exfoliation relies upon a bulk blending thereof with an elastomer host at an elevated temperature and under high shear conditions in contrast to pre-intercalating the clay in an aqueous based medium and in contrast to simple low viscosity melt processing of a thermoplastic polymer. The invention also relates to articles of manufacture, including tires, having at least one component comprised of such rubber composition. Such tire component may be, for example, a tire tread.